

Exhibit M



U.S. Department of Justice

*United States Attorney
Southern District of New York*

*The Silvio J. Mollo Building
One Saint Andrew's Plaza
New York, New York 10007*

September 1, 2023

BY EMAIL

Sean Hecker
Jenna M. Dabbs
David Gopstein
Anne Yearwood
Kaplan Hecker & Fink LLP
350Fifth Avenue, 63rd Floor
New York, NY 10118

Re: *United States v. Neil Phillips*, 22 Cr. 138 (RA)

Dear Counsel:

Pursuant to the Court's scheduling order, the Government hereby provides notice that it may call Professors David DeRosa, Carolyn Holmes, and Richard Lyons as witnesses in the trial of the above-referenced matter. Enclosed are disclosures made pursuant to Federal Rule of Criminal Procedure 16(a)(1)(G), stating their anticipated opinions and the bases and reasons for those opinions. As a further disclosure, the Government intends to produce draft exhibits on September 22, 2023. The Government reserves the right to supplement and amend these notices, including with respect to anticipated testimony, and will do so promptly pursuant to the requirements of Rules 16(a)(1)(G)(vi) and 16(c).

We also note that, during trial, the Government may also call fact witnesses whose testimony will necessarily involve reference to industry terms, concepts, and regulations relevant to foreign exchange trading. Though the Government does not believe this type of testimony would constitute expert testimony pursuant to Federal Rule of Evidence 702, the Government nevertheless notes that it expects that, if called, (a) Jennifer Sunu, a Compliance Director at National Futures Association ("NFA"), will testify to the NFA regulatory and licensing rules applicable to Glen Point and Neil Phillips and to Phillips's licensing status during the time of the charged conduct; and (b) former employees of Nomura or Glen Point, who were on the Nomura-Glen Point Bloomberg chat thread over which Mr. Phillips placed the allegedly manipulative orders, will testify to, among other things, their understanding of the meaning of certain

terminology and instructions used in the relevant exchange between Mr. Phillips and Mr. Kamath. A copy of Ms. Sunu's *curriculum vitae* is enclosed.

Please contact us with any questions.

Regards,

DAMIAN WILLIAMS
United States Attorney

by: /s/
Thomas Burnett
Kiersten Fletcher
Andrew Thomas
Assistant United States Attorneys

Enclosures

Expert Disclosure – Professor Carolyn Holmes

(September 1, 2023)

Professor Carolyn Holmes is an Assistant Professor of Political Science at the University of Tennessee in Knoxville. The Government expects to call Professor Holmes to testify regarding political events in South Africa in late 2017, as further described below.

A. Qualifications and Prior Testimony

1. Professor Holmes is a political scientist with expertise in the politics of sub-Saharan Africa, particularly post-conflict reconciliation and democratization in South Africa. A copy of Professor Holmes's CV, as well as a list of all publications authored by Professor Holmes, is attached as Appendix A.

2. Professor Holmes has never testified.

3. Professor Holmes is compensated for her time at the rate of \$250 per hour.

B. Summary of Materials Reviewed

In preparing for her testimony, Professor Holmes has reviewed scholarly and mass media articles regarding the 2017 ANC Conference, including the materials listed in Appendix B. As explained above, Professor Holmes also has extensive research and publishing expertise in democratization in South Africa, including the book *The Black and White Rainbow: Reconciliation, Opposition, and Nation-Building in Democratic South Africa* and the scholarly articles cited in her CV.

C. Anticipated Opinions

Outlined below are the opinions that Professor Holmes is expected to offer as well as the bases and reason for those opinions:

- Professor Holmes will explain basic political information about the Republic of South Africa, including that: South Africa is a constitutional democracy with a three-tier system of government. South Africa's legislative authority is entrusted to the parliament. Every five years, members of parliament elect a president, who serves as both a head of state and as the head of government.
- In 2017, the African National Congress ("ANC") was the ruling political party in South Africa, holding approximately two-thirds of South Africa's parliamentary seats. The ANC's party leader, Jacob Zuma, had served as president of South Africa since 2009.
- The ANC held its National Conference between December 16 and 20, 2017 (the "ANC Conference"). In the weeks and months leading to the ANC Conference, ongoing allegations of corruption and Zuma's inability to serve another term as South Africa's head of state due to term limits made it increasingly unlikely that

Zuma would be re-elected party leader of the ANC. During this time, several challengers emerged to assume the role of ANC party leader, with Zuma endorsing his former wife, Nkosazana Dlamini-Zuma, who advocated for land redistribution and economic reforms aimed at displacing white racial dominance within the South African economy. South Africa's Deputy President Cyril Ramaphosa also emerged as a potential party leader representing the ANC's more pro-free market and classically liberal wing.

- Prior to the ANC Conference, experts predicted Ramaphosa would assume the role of ANC party leader over Dlamini-Zuma, but the margin by which he was expected to win varied widely, with some experts speculating Ramaphosa would win by a large margin and others anticipating a much closer contest at the ANC Conference.
- During the ANC Conference, which was held from December 16, 2017 to December 20, 2017, members of the ANC cast votes for party leader and other leadership positions within the ANC's National Executive Committee. On December 18, 2017, the ANC announced that it had elected Cyril Ramaphosa as its party leader by a narrow margin over Dlamini-Zuma, virtually ensuring Ramaphosa would assume the presidency of South Africa. However, other members of Dlamini-Zuma's wing in the ANC assumed many of the other senior leadership positions in the ANC, suggesting the ANC still favored pro-economic redistribution agenda promoted by Dlamini-Zuma's wing.

Professor Holmes' opinions are based on her background and research discussed above, including but not limited to the materials cited in Appendix B.

D. Approval and Signature

I hereby approve the disclosure of my qualifications, anticipated opinions, and bases for such opinions, as set forth above.



Professor Carolyn Holmes

Appendix A

Carolyn E. Holmes *Curriculum Vita*

E-mail: cholme36@utk.edu or carolyneholmes@gmail.com

Website: <http://www.carolyneholmes.com>

Academic Positions

Fall 2023-Pres.	Assistant Professor of Political Science University of Tennessee, Knoxville
Fall 2016-Spring 2023	Assistant Professor of Political Science and Public Administration, Affiliated Faculty in the African American Studies Program Mississippi State University, Starkville, Mississippi
2015-2016	Visiting Assistant Professor of Political Science Bucknell University, Lewisburg, Pennsylvania
Summer 2015	Visiting Assistant Professor of International Relations Webster University, Accra, Ghana

Education:

Ph.D., Indiana University, Bloomington Department of Political Science Primary Field: Comparative Politics Secondary Field: Political Philosophy Minor: African Studies Dissertation Title: <i>The Black and White Rainbow: Reconciliation, Opposition and Nation Building in Democratic South Africa</i>	2007-2015
B.A., Honors, DePauw University, Greencastle, Indiana Political Science and African History Honors Thesis: <i>Exploring the Disconnect: AIDS in South Africa in an Age of Information</i>	2002-2006

Research Interests:

State Legitimacy; Southern Africa; Post-Conflict Reconciliation; Nationalism; Gender and Race Theories; Political Ethnography and Qualitative Methods; Nation Building

Book:

Holmes, Carolyn E. 2020. *The Black and White Rainbow: Reconciliation, Opposition, and Nation-Building in Democratic South Africa*. Ann Arbor: University of Michigan Press.

Abstract:

Nation-building imperatives compel citizens to focus on what makes them similar and what binds them together, forgetting what makes them different. Democratic institution building, on the other hand, requires fostering opposition through conducting multi-

party elections and encouraging debate. Leaders of democratic factions, like parties or interest groups, can consolidate their power by emphasizing difference. But when held in tension, these two impulses—toward remembering difference and forgetting it, between focusing on unity and encouraging division—are mutually constitutive of sustainable democracy. Based on ethnographic and interview-based fieldwork conducted in 2012-2013, the book explores various themes of nation- and democracy-building, including the emotional and banal content of symbols of the post-apartheid state, the ways that gender and race condition nascent nationalism, the public performance of nationalism and other group-based identities, integration and sharing of space, language diversity, and the role of democratic functioning including party politics and modes of opposition. Each of these thematic chapters aims to explicate a feature of the multifaceted nature of identity-building, and link the South African case to broader literatures on both nationalism and democracy.

Reviewed By:

- The Monkey Cage African Politics Summer Reading Spectacular
<https://www.washingtonpost.com/politics/2021/07/16/announcing-8th-annual-tmc-african-politics-summer-reading-spectacular/>
- Perspectives on Politics
<https://www.cambridge.org/core/journals/perspectives-on-politics/article/abs/black-and-white-rainbow-reconciliation-opposition-and-nationbuilding-in-democratic-south-africa-by-carolyn-e-holmes-ann-arbor-university-of-michigan-press-2020-264p-7500-cloth-29>
- New Books Network:
<https://newbooksnetwork.com/the-black-and-white-rainbow>
- Choice Reviews from the Association of College and Research Libraries
https://www.press.umich.edu/11518321/black_and_white_rainbow

Peer-Reviewed Journal Articles:

Broache, M. P., Carolyn E. Holmes, and Sherry Zaks. Forthcoming. “Political Science after the Insurrection: Teaching about Democratic Backsliding in US Classrooms.” *Journal of Political Science Education*.

Rigney, Maeve, and Carolyn E Holmes. 2023. “Is ‘White Nationalism’, Nationalism?” *Nations and Nationalism* 29 (2): 512–27.

Holmes, Carolyn E. 2022. “Victimhood Gone Viral: Portrayals of Extra-Lethal Violence and the Solidarity of Victims in the Case of South African Farm Violence Activists.” *Politics, Groups, and Identities* 10 (3): 367–87.

Holmes, Carolyn E. 2021. “Standing Out and Blending In: Contact-Based Research, Ethics, and Positionality.” *PS: Political Science & Politics* 54 (3): 443–47.

Banerjee, Vasabjit, and Carolyn E. Holmes. 2020. “Checking Trust: Observing Social Capital at the Individual Level.” *The Journal of Modern African Studies* 58 (2): 213–34.

Holmes, Carolyn E. 2019. “The Politics of ‘Non-Political’ Activism in Democratic South Africa.” *Comparative Politics* 51 (4): 561–80.

- Holmes, Carolyn E. 2019. "Conventions, Courts, and Communities: Gender Equity, CEDAW and Religious Personal Law in India." *Journal of Asian and African Studies*, 54(7): 965–979.
- Rich, Timothy S., and Carolyn E. Holmes. 2016. "Winning Is Not Everything: Public Perceptions of Losers and Non-Voters in South Africa." *Acta Politica* 51 (3): 328–45.
- Holmes, Carolyn E., and Melanie Loehwing. 2016. "Icons of the Old Regime: Challenging South African Public Memory Strategies in #RhodesMustFall." *Journal of Southern African Studies* 42 (6): 1207–23.
- Holmes, Carolyn E. 2015. "Marikana in Translation: Print Nationalism in South Africa's Multilingual Press." *African Affairs* 114 (455): 271–94.
- Shoup, Brian D., and Carolyn E. Holmes. 2013. "Recrafting the National Imaginary and the New 'Vanguardism.'" *Democratization* 21 (5): 1–21.
- Holmes, Carolyn E., and Brian D. Shoup. 2013. "Framing the Democratic Narrative: Local and National Voting Patterns in South Africa." *Commonwealth & Comparative Politics* 51 (1): 56–75.

Book Chapters:

- Sawyer, Amos, Lauren Maclean, and Carolyn E. Holmes. 2014. "African Politics and the Future of Democracy." In *Africa, Fourth Edition*, edited by John H. Hanson, Patrick O'Meara, and Maria Grosz-Ngate, 250–74. Bloomington: Indiana University Press.

Book Reviews:

- Holmes, Carolyn E. Forthcoming "What Went Right? South African Democracy and the Study of Political Science" *Political Studies Quarterly*.
- Holmes, Carolyn E. 2020. "Contradictions of Democracy: Vigilantism and Rights in Post-Apartheid South Africa. By Nicholas Rush Smith. New York: Oxford University Press. 2019. 244p. \$99.00 cloth, \$29.95 paper." *Perspectives on Politics* 18 (1): 305-307.

Popular Media:

- Holmes, Carolyn E. 2022. "Two New Books Take Different Roads to Understand South Africa." *Washington Post*, August 26, 2022.
<https://www.washingtonpost.com/politics/2022/08/26/south-africa-post-apartheid/>.
- Holmes, Carolyn E. 2021. "Analysis | Archbishop Tutu's Radical Commitment to Humanity Led Him to Criticize Parties, People and Institutions." *Washington Post*.
<https://www.washingtonpost.com/politics/2021/12/27/archbishop-tutus-radical-commitment-humanity-led-him-criticize-parties-people-institutions/>.

- Holmes, Carolyn E. 2021. “Why South Africans Are Protesting the Arrest of Former President Jacob Zuma.” *Washington Post, The Monkey Cage*, July 14, 2021.
<https://www.washingtonpost.com/politics/2021/07/14/why-south-africans-are-protesting-arrest-former-president-jacob-zuma/>.
- Holmes, Carolyn E. 2019. “The Ideology of Xenophobia in South Africa.” *Mischiefs of Faction*, September 18, 2019. <https://www.mischiefsoffaction.com/post/the-ideology-of-xenophobia-in-south-africa>.
- Holmes, Carolyn E. 2019. “What’s behind South Africa’s Xenophobic Violence Last Week?” *Washington Post*, 9 September 2019, sec. Monkey Cage.
<https://www.washingtonpost.com/politics/2019/09/09/whats-behind-south-africas-xenophobic-violence-last-week/>.
- Holmes, Carolyn E. 2019. “Tucker Carlson, Those South African White Rights Activists Aren’t Telling You the Whole Truth.” *Washington Post*, May 15, 2019, sec. Monkey Cage.
<https://www.washingtonpost.com/politics/2019/05/15/tucker-carlson-those-south-african-white-rights-activists-arent-telling-you-whole-truth/>.
- Holmes, Carolyn E. 2017. “Should Confederate Monuments Come down? Here’s What South Africa Did after Apartheid.” *Washington Post*, August 29, 2017, sec. Monkey Cage.
<https://www.washingtonpost.com/news/monkey-cage/wp/2017/08/29/should-confederate-monuments-come-down-heres-what-south-africa-did-after-apartheid/>.

Online Publications:

- Holmes, Carolyn E. 2021. “Digital Fieldwork, and the Case for Studying Misinformation as Information.” *Digital Fieldwork Project*, April 29, 2021.
<https://sigla.georgetown.domains/digitalfieldwork/digital-fieldwork-and-the-case-for-studying-misinformation-as-information/>.
- Holmes, Carolyn E. 2015 “The Language of Politics in South Africa.” *Democracy in Africa*. 18 July. Available: <http://democracyinafrica.org/the-language-of-politics-in-south-africa/>
- Holmes, Carolyn E. 2015. “The Qualitative Data Repository: The Opportunities and Challenges of Sharing Qualitative Field Data.” *African Politics Conference Group Newsletter* 11(1): 10-11. Available:
http://africanpoliticsgroup.org/wp/wpcontent/uploads/2015/03/APCG_Newsletter11_1.pdf
- Holmes, Carolyn E. 2012. “United in Diversity or Divided in Difference: Belonging and Opposition in Democratic South Africa.” *Southern African Peace and Security Studies* 1(2): 4-19. Available: <http://saccps.org/journal1-2.html>

Grants, Fellowships and Awards:

- American Political Science Association Special Projects Grant, to host second descriptive research conference, 2022-2023

American Political Science Association Centennial Center Grant, to host conference “Just Telling it Like it is: Descriptive Work and Social Science Research,” 2021-2022

American Political Science Association Women’s Research Mentoring Workshop Participant, October 2018

Outstanding Undergraduate Teacher of the Year, 2018, Mississippi State University Department of Political Science and Public Administration

Katherine C. Greenough Award for Outstanding Dissertation, Indiana University Department of Political Science, 2016

Carleton T. Hodge Prize for Excellence in African Studies, Indiana University African Studies Program, 2014

Institute for International Education and Andrew W. Mellon Foundation, Dissertation Fellowship for Overseas Study, 2012-2013

Institute for Qualitative and Multi-method Research Scholar, IQMR Consortium, June 13-24, 2011

Fulbright-Hays Graduate Program Abroad, Advanced Zulu Language, University of KwaZulu-Natal, Pietermaritzburg, Summer 2008

Dean’s First Year Fellowship, Indiana University, Bloomington, 2007-2008

Selected Invited Talks:

“A White researcher in South Africa: Reflection of Positionality” SPARK Talk, Zoom Talk, McMaster University, 1 April 2022.

“What makes “us?”: Nation Building and Democratization in South Africa after Mandela” Mississippi State University Honors College, 18 October 2021.

“What makes “us?”: Nation Building and Democratization in South Africa after Mandela” Boston University African Studies Center, Zoom Talk, 27 September 2021.

“The Black and White Rainbow” City College of New York, Department of Political Science, Zoom Talk, 4 April 2021.

“The Black and White Rainbow” Hobart and William Smith Colleges, Zoom Talk, Department of Political Science, Zoom Talk, 18 March 2021.

“Mis/DisInformation and Digital Ethnography” Methods Clinic, Interpretive Methods and Methodologies Section of the American Political Science Association, Zoom Talk, 19 February 2021.

Selected Conference Participation:

Presenter. “Challengers in a Pandemic: COVID-19, States of Exception and Opposition Parties in Southern Africa.” Presented at the Midwest Political Science Association Annual Meeting 2022.

Presenter. “From Poor White to White Victims: South Africa, the United States, and the Consolidation of White Rule in the 19th-21st Centuries.” Presented at the Midwest Political Science Association Annual Meeting 2022

Presenter. “Interpretation and the Sciences of Man: A reflection on Charles Taylor’s Work” Roundtable. Presented at the Western Political Science Association Annual Meeting, 2022.

Presenter. “Fighting Back: Rural Populism and Opposition Parties in the 2019 South African General Election” Presented at American Political Science Association Annual Meeting, Virtual Format, September 2020.

Presenter. “White Victimhood Gone Viral: South African Farm Violence Activists” Presented at American Political Science Association Annual Meeting, September 2019, Washington, DC.

Presenter. “State of the Discipline: Authoritarianism, Back-sliding and Democratic Transitions.” American Political Science Association Teaching Symposium on Comparative Politics, Washington, DC, May 2019.

Participant. The Monkey Cage New Contributors Workshop, at the Annual Meeting of the Western Political Science Association, San Diego, California, April 2019.

Presenter. “The Currency of Claiming Victimhood: Farm Murders, Activism and the International Alt-Right Narrative of White Genocide.” Annual Meeting of the African Studies Association, Atlanta, Georgia, November 2018.

Presenter. “Purity as Protection: Abstinence-focused discourses of security and contamination in the revival of Umkhosi womHlanga in South Africa.” Annual Meeting of the Southern Political Science Association, New Orleans, Louisiana, January 2018.

Presenter. “Riots and Repercussions: Vernacular language media and coverage of the 2002 violence in Gujarat.” Annual Meeting of the Southern Political Science Association, New Orleans, Louisiana, January 2018.

Discussant. Colonialism and Historical Legacies in Comparative Perspective Panel. Annual Meeting of the Southern Political Science Association, New Orleans, Louisiana, January 2018.

Presenter. “Measuring Social Capital at the Intersection of Individuals and Society.” Annual Meeting of the Southern Political Science Association, New Orleans, Louisiana, January 2017.

Chair and Discussant. Collective Action: Identity and Movement Panel. Annual Meeting of the Southern Political Science Association, New Orleans, Louisiana, January 2017.

Discussant. Political Development: African Politics Panel. Annual Meeting of the Southern Political Science Association, New Orleans, Louisiana, January 2017.

Presenter. ““We don’t do politics. We are Activists”: The Rejection of the Political and the Culture of South African Democracy” Presented at American Political Science Association Annual Meeting, September 2016, Philadelphia, PA.

Presenter. “Competing Visions of Post-Transitional Citizenship: The Quest for Representation in South African Memorialization” Annual Meeting of the Midwest Political Science Association, Chicago, Illinois, April 2016.

Presenter. Roundtable: Opportunities to Design and Teach Introduction to Comparative Politics that Promote Engagement and Deep Understanding. Annual Meeting of the Midwest Political Science Association, Chicago, Illinois, April 2016.

Presenter. “Checking Trust: Observing Social Capital at the Individual Level” Annual Meeting of the American Political Science Association, San Francisco, California, August 2015.

Presenter. “We don’t do politics. We are Activists”: The Rejection of the Political and the Culture of South African Democracy” Annual Meeting of the Midwest Political Science Association, Chicago, Illinois, April 2015.

Presenter. “Icons of the old regime: Negotiating collective memory through apartheid-era statuary in post-apartheid South Africa.” Annual Meeting of the Midwest Political Science Association, Chicago, Illinois, April 2015.

Discussant. Symbolism and Ideologies Panel, Annual Meeting of the Midwest Political Science Association, Chicago, Illinois, 2015.

Teaching Experience

Mississippi State University (Starkville, Mississippi)

African Politics	Undergraduate/Graduate Course
Third World Politics	Undergraduate/Graduate Course
Comparative Government	Undergraduate Course

Bucknell University (Lewisburg, Pennsylvania)

Comparative Politics	Undergraduate Course
Third World Politics	Undergraduate Course
Nationalism: East and West	Undergraduate Course

Webster University (Accra, Ghana)
Nationalism Graduate Course
Research Methods Graduate Course

Indiana University (Bloomington, Indiana)
Pols of Gender & Sexuality Undergraduate Course

Other Academic/Research Experience:

Lateral Coder and Country Expert for Southern Africa, V-Dem: Varieties of Democracy Project, Winter-Spring 2014

Research Assistant to Dr. Jean Robinson, Summer 2010-May 2012, June 2013-May 2015

Comparative Politics Editorial Assistant, Perspectives on Politics, a journal of the American Political Science Association, 2008-2010

Service to the Discipline:

Democracy and Autocracy, APSA Section Secretary, 2022-2024.

Virtual Community Co-Chair, Interpretive Methods, Western Political Science Association, 2021-2022.

Section Chair, Developing Areas in Comparative Politics, Southern Political Science Association, 2021-2022.

Facilitator, Interpretive Methods Virtual Community, Western Political Science Association, 2021

Contributing Editor, Journal for Contemporary History/Joernaal vir Eietydse Geskiedenis.

Reviewer, *British Journal of Political Science*, *Acta Politica*, *Politikon*, *Journal of International Relations and Development*, *Journal of Asian and African Studies*, *African Affairs*

Research Skills:

Languages:

isiZulu - Advanced Written and Spoken Proficiency 8 semesters of classes and 12+ months of immersion experience

Afrikaans - Intermediate Written and Spoken Proficiency 4 semesters of private tutoring, and 7+ months immersion experience

Spanish - Intermediate Written and Spoken Proficiency 10 semesters of classes

French - Basic Written and Spoken Proficiency 4 semesters of classes

Data Analysis:

Statistical Methods- OLS, MLE

Programs: Stata, Excel

Qualitative Methods and Field Ethics Training

Programs: Atlas.ti

Methodological Expertise: Interview Methods, Ethnography, Open-ended survey,
Ordinary language interviewing, Discourse analysis

Appendix B

Articles

- Susan Boysen, “The African National Congress and its transfer of power from Zuma to Ramaphosa: the intraparty-multiparty nexus,” 98 *Critical Perspectives on Southern Africa* 1 (2019)
- Carien du Plessis, “ANC Policy Conference 2017: Ramaphosa gets a battle cry – ‘Radical Socio-Economic Transformation,’” *Daily Maverick* (July 3, 2017)
- Jason Burke, “Cyril Ramaphosa chosen to lead Southern Africa’s ruling ANC party,” *The Guardian* (December 18, 2017)
- John Campbell, “South Africa’s ANC Policy Conference Begins,” *Council on Foreign Relations* (June 30, 2017)
- Martin Roberts, “South Africa’s ANC elective conference,” *S&P Global* (December 15, 2017)

Expert Disclosure – Professor David DeRosa
(September 1, 2023)

David DeRosa is an adjunct professor of finance at the Fu Foundation School of Engineering at Columbia University. The Government expects to call Professor DeRosa to introduce basic foreign-exchange trading terminology, principles, and concepts, as further described below.

A. Qualifications and Prior Testimony

Professor DeRosa received his bachelor's degree in economics from the University of Chicago in 1972. He received a Ph.D. in finance and economics from the Graduate School of Business of the University of Chicago in 1978. Professor DeRosa has worked as a foreign-exchange trader and portfolio manager, including at banks and hedge funds. He has also served as a member of the board of directors for several hedge funds, including the Children's Investment Fund, Systematica Investments Ltd., and GSA Capital Management.

Over the course of his career, Professor DeRosa has written extensively on topics related to foreign-exchange trading, including as the principal author of the following six books: *Foreign Exchange Operations* (2013); *Options on Foreign Exchange* (3d ed. 2011); *Central Banking and Monetary Policy in Emerging-Market Nations* (2013); *In Defense of Free Capital Markets* (2001); *Currency Derivatives* (1998); and *Managing Foreign Exchange Risk* (1991). He has also taught courses about foreign-exchange trading at Columbia University, the University of Chicago, and the Yale University School of Management. A list of all publications authored by Professor DeRosa is attached as Appendix A.

In addition to this academic work, Professor DeRosa is the founder of DeRosa Research & Trading, Inc., through which he has testified as an expert witness and provided economic consulting to clients, including investment banks, broker-dealers, and investment- and hedge-fund managers. A list of cases in the last four years in which Professor DeRosa has testified as an expert is attached as Appendix B. DeRosa Research & Trading bills for Professor DeRosa's time at a rate of \$450 per hour. He receives the full amount billed for his time and also receives compensation tied to the profitability of DeRosa Research & Trading.

B. Anticipated Opinions

The Government anticipates that Professor DeRosa will offer the following opinions during his testimony:

1. The foreign-exchange market is a capital market in which people exchange one currency for another currency. Currencies are exchanged in pairs. One example of an emerging-market currency pair is the United States dollar and the South African rand, or USD/ZAR. The relative value of currencies in a pair is expressed as an exchange rate. Exchange rates are reported to different digits depending on the exchange rate, and certain terms—such as “big figure” and “pip”—are used to identify a particular digit in an exchange rate. Essentially, exchange rates are

market prices for currencies. In a properly functioning market, the price of a particular currency is determined by the supply of, and demand for, that currency.

2. Many different types of entities participate in the foreign-exchange market. Participants in the foreign-exchange market include banks, hedge funds, pension funds, investment funds, companies, governments or government agencies, central banks, and even private individuals. These entities engage in foreign-exchange trading to accomplish many different purposes, including managing risk, facilitating their business operations, facilitating international trade, and seeking to profit based on changes in exchange rates.

3. There is not one centralized location for foreign-exchange trading. Major banks typically act as dealer, standing ready to engage in foreign-exchange transactions with, and on behalf of, their customers. Those banks also engage in transactions with one another, and with other entities, either directly or over electronic brokering systems. Different trading centers around the world open and close at different times of day. Some trading centers are larger than others, or are more actively used to trade certain currency pairs. As a result, the liquidity for a particular currency pair can fluctuate over the course of a day.

4. One type of foreign-exchange transaction is a “spot” transaction. A spot transaction is an agreement to exchange sums of currency at an agreed-upon exchange rate on a value date that is in two bank business days’ time. For instance, if two parties engage in a spot transaction in the USD/ZAR currency pair, one party sells dollars for rand, and the other buys dollars for rand. The actual exchange of the currencies is called settlement, which occurs on the appointed value date. Settlement in foreign-exchange spot transactions typically occurs two bank business days after the transaction and may involve the help of a settlement bank, such as CLS Bank. Parties can also agree to later settlement dates, or delay an agreed-upon settlement date, through “forward” or “rollover” transactions.

5. Traders that want to engage in a spot transaction typically do so through one of the major banks. There are different ways to place orders, including the following four: (1) a market-order, in which the trader provides the size of the desired trade and the currency pair, and seeks a price quotation from the dealer. The dealer responds with a bid and an ask. The trader may then accept either the bid or ask, or the trader may pass; (2) a limit order, in which a trader instructs a dealer to buy or sell a quantity of foreign currency at a set exchange rate or better for a designated period of time; (3) a stop-loss order, in which a trader instructs a dealer to initiate an order based on a specified movement in an exchange rate; and (4) an order to fill (or “at best” order), in which a trader instructs a dealer to buy or sell a certain amount of a currency pair at the best price the dealer can obtain. This is not an exhaustive list of ways to place orders. For instance, traders can also place a variation of a market-order, in which the trader identifies whether it wants to buy or sell and the amount, and then receives either a bid price or ask price from the dealer, as the case may be.

6. Different methods of placing orders allocate risk differently between the parties in the transaction. For instance, in the market-order process described above, the trader is assured that it can buy or sell at the price quoted by the dealer. The dealer has taken on the risk that it might ultimately lose money based on the price it has quoted. By contrast, in the order-to-fill

process described above, the trader takes on the risk that prices may change while the dealer is attempting to fill the order, while the dealer is able to guarantee that it will make a profit through a markup on the trade. Ultimately, market participants profit in spot trades by buying low and selling high, so finding the best price for buying or selling, as the case may be, is important to have the best chance at making a profitable trade.

7. Another type of foreign-exchange transaction is an “option.” There are many different types of options on foreign exchange, but broadly speaking, an option is the right (but not the obligation) to receive a payment or take a particular action. Two of the most basic options, known as “vanilla” options, are “put” and “call” options. A put confers the right, but not the obligation, to sell a sum of currency at a set price (known as the strike price) on or before the date the option expires. A call confers the right, but not the obligation, to buy a sum of currency at the strike price on or before the date the option expires. More complicated options are sometimes referred to as “exotic” options. As with spot transactions, participants in the foreign-exchange market typically buy and sell currency options through dealer banks, which act as market makers for foreign-exchange options.

8. One type of exotic option is a one-touch binary option (“OT Option”). A OT Option entitles the option purchaser to receive a fixed sum of money if the exchange rate passes (or, depending on the contract, reaches) the barrier during the life of the option. The OT Option purchaser pays the seller a fixed sum of money upfront for the option, called a “premium.” If the exchange rate does not pass through the barrier during the life of the option, the option expires and the purchaser loses the money it paid for the option. OT Options are useful because they allow market participants to make highly leveraged trades based on specific exchange rates. OT Options are economically attractive if the purchaser believes that the price the seller is charging for the OT Option is low relative to the size of the potential payout and the purchaser’s assessment of the likelihood that the exchange rate reaches or passes the agreed-upon level during the life of the option.

9. Options in general, and OT Options in particular, expose parties to the risk that they may gain, or lose, a significant amount of money on that position. Parties can manage that risk through a process called “delta hedging.” “Delta” is a measure of the degree to which the price of an option shifts based on a change in the price of the underlying asset. “Delta hedging” is a strategy designed to reduce the directional risk associated with price movements of an asset, often through offsetting short and long positions. In the context of foreign-exchange trading, parties can use spot transactions to hedge delta from options.

10. Large dealer banks often offer foreign-exchange prime-brokerage services to clients, including hedge funds. Foreign-exchange prime brokerage is a service wherein the customer is allowed to use the trading infrastructure of the prime broker bank to execute foreign exchange transactions with another dealer. The prime broker becomes the actual party to the transaction, standing in for the customer. This is called a “give-up trade.” The prime broker and customer then enter into an identical transaction. Market participants use prime brokers because, among other things, it allows them better access to credit and liquidity and helps with recordkeeping.

Professor DeRosa's opinions are based on his academic and professional experience working in, researching, and writing about foreign-exchange trading, including the work done to prepare his textbooks, *Options on Foreign Exchange* and *Foreign Exchange Operations*.

C. Approval and Signature

I hereby approve the disclosure of my qualifications, anticipated opinions, and bases for such opinions, as set forth above.

A handwritten signature in cursive script, appearing to read "David DeRosa", written in black ink.

Professor David DeRosa

Appendices A & B

DeRosa Research and Trading, Inc.

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derosa@derosa-research.com
www.derosa-research.com

Dr. David DeRosa

Education

The University of Chicago, Graduate School of Business	Chicago, Illinois
<i>Doctor of Philosophy (Ph. D.), December 1978</i>	
<ul style="list-style-type: none"> Fields: Finance and Economics Dissertation: <u>Rates of Return on Common Stocks and Inflation</u> 	
The University of Chicago	Chicago, Illinois
<i>Bachelor of Arts (AB), August 1972</i>	
<ul style="list-style-type: none"> Major Field: Economics 	

Professional Experience

1997 - Present	DeRosa Research and Trading, Inc. <i>President and Owner</i>	New Canaan, Connecticut
	<ul style="list-style-type: none"> Economist for international financial markets and derivative instruments matters Expert witness in foreign exchange, international finance, emerging markets, derivatives, and risk management 	
1998 - 2004	Bloomberg News <i>Financial Columnist</i>	New Canaan, Connecticut
1996 - 1997	Quadrangle Investments, LLC <i>Co-Founder and Managing Partner</i>	Greenwich, Connecticut
1993 - 1996	Swiss Bank Corporation <i>Director, Foreign Exchange Trading</i>	New York, New York
1992 - 1993	BEA Associates <i>Vice President and Derivatives Portfolio Manager</i>	New York, New York
1988 - 1992	Alliance Capital Management LP <i>Vice President - Derivatives and Synthetics</i>	New York, New York
1985 - 1988	DeRosa & Company <i>President and Owner</i>	Los Angeles, California
1984 - 1985	International Financial Advisers <i>Acting General Manager</i>	Kuwait City, Kuwait
1981 - 1983	Consulting Center for Finance and Investment <i>Senior Vice President</i>	Riyadh, Saudi Arabia
1980 - 1981	Wilshire Associates <i>Senior Associate</i>	Santa Monica, California
1979	Ministry of Finance and National Economy <i>Economic Advisor</i>	Riyadh, Saudi Arabia

Teaching Experience

2006 - Present	Columbia University <i>Adjunct Professor in the Industrial Engineering and Operations Research Department</i>	New York, New York
	<ul style="list-style-type: none"> Instructor in graduate program in Financial Engineering 	
1996 - 2010	Yale School of Management <i>Adjunct Professor of Finance</i>	New Haven, Connecticut
	<ul style="list-style-type: none"> Instructor for advanced graduate courses in financial management, international finance, financial policy in emerging markets, foreign exchange, derivatives, and asset management 	
1995 - 1996	The University of Chicago, Graduate School of Business <i>Lecturer in Finance, Concurrent with Swiss Bank</i>	Chicago, Illinois
1979 - 1980	The University of Southern California <i>Assistant Professor of Finance and Business Economics</i>	Los Angeles, California
1975 - 1978	Loyola University Chicago <i>Instructor in Finance</i>	Chicago, Illinois

Boards of Directors

2003 - Present	TCI Fund Management <i>Director</i>
2005 - Present	GSA Capital Partners <i>Director</i>
2014 - Present	Systematica Investments <i>Director</i>
2020 - Present	PL Credit Opportunities Limited <i>Director</i>
1999 - 2020	Rubicon Fund Management <i>Director</i>
2011 - 2019	Palm Lane Credit Opportunities Fund <i>Director</i>
2002 - 2018	BlueCrest Capital Management <i>Director</i>
2016 - 2018	Green Park Trading 1 Limited <i>Director</i>
2016 - 2017	Quinti Capital Management <i>Director</i>
2011 - 2016	OneWall Advisors <i>Director</i>

Boards of Directors, cont.

- 2009 - 2016 **PCM Partners**
Director
- 2010 - 2014 **Pendragon Event Driven Fund**
Director
- 2005 - 2006 **CCC Carbon Fund**
Director
- 1998 - 2004 **Midwest Independent Transmission System Operator**
Director, Chairman of the Markets Committee, Member of the Finance and Audit Committee

Books

- Bursting the Bubble: Rationality in a Seemingly Irrational Market, Research Foundation of the CFA Institute, 2021.
- Foreign Exchange Operations: Master Trading Agreements, Settlement, and Collateral, John Wiley & Sons, 2014.
- Options on Foreign Exchange, 3rd ed. John Wiley & Sons, 2011.
- Central Banking and Monetary Policy in Emerging-Markets Nations, Research Foundation of the CFA Institute, 2009.
- In Defense of Free Capital Markets: The Case Against a New International Financial Architecture, Bloomberg Press, 2001. (Turkish language edition, simple Chinese edition).
- Currency Derivatives, John Wiley & Sons, 1998.
- Managing Foreign Exchange Risk, Revised Edition, Irwin / McGraw-Hill, 1996. (Japanese language edition, Yuhikaku, Tokyo).

Chapters, Articles and Seminars

- “Central Banks, Monetary Policy, and the Return of Macroeconomics” CFA Institute Conference Proceedings Quarterly, December 2009: 26 (4).
- “Understanding Monetary Policy Trends in World Markets” CFA Society Argentina & Uruguay, Latin America, August 19-23, 2013, Speaker.
- “Sponsored Transactional Patterns: Comments on Mehrling’s ‘Essential Hybridity: A Money View of FX’” *Journal of Comparative Economics* (2013), <http://dx.doi.org/10.1016/j.jce.2013.03.008>.
- “The Money Theory of Law and Finance for Foreign Exchange” Columbia Law School Global Finance and Law Institute, New York, September 22, 2012, Speaker.
- “The Sovereign Debt Constraint” Foundation Financial Officers Group, Washington D.C. April 27, 2012, Speaker.

Chapters, Articles and Seminars, cont.

“Central Banking and Monetary Policy in Emerging Markets Nations” CFA Society of Tucson, September 15, 2010, Speaker.

“The International Funds Conference” January 9, 2008, Speaker.

“China’s Defense of the Peg Perpetuates Central Planning” Cato Journal, Vol. 25, No. 1 (Winter 2005).

“Financial Markets and Legal Ambiguity” Columbia University Practitioners in Mathematics of Finance Conference, October 2003.

“Memo to Argentina: Dollarize or Die” Newsweek, December 17, 2001.

“Innovations in World Monetary Policy” Columbia University Practitioners in Mathematics of Finance Conference, September 15, 2001.

“Recent Innovations in Japanese Monetary Policy” Yale University, August 1, 2001.

“The Capital Mistress: Free Market Models and the Global Economy” Harvard International Review, Summer 1999.

“Emerging Markets and Currency Crises” CFA Institute Conference Proceedings Quarterly, 1999.

“Foreign Exchange Hedging by Managers of International Fixed Income and Equity Portfolios” Handbook of Portfolio Management, edited by Frank J. Fabozzi. New Hope, PA: Frank J. Fabozzi Associates, 1998.

“Going Along for the Ride” Newsweek, June 22, 1998.

“Currency Management for Global Bond Portfolios” AIMR Conference Proceedings, Global Bond Management (November 1997): 71-76.

“The Southeast Asian Currency Crisis” New York Society of Securities Analysts, New York, Summer 1997.

“Forward and Futures Contracts on Foreign Exchange” Derivatives Quarterly, Institutional Investor, Fall 1994.

“Using Derivatives to Manage the Currency Risk in Global Investment Portfolios” AIMR Conference Proceedings, Derivative Strategies for Managing Portfolio Risk (December 1993): 92-97.

“Introduction to Currency Options” The Journal of Investing, Summer 1993.

“An Option-Based Approach to Currency Risk Management” Strategic Currency Investing, edited by Andrew W. Gitlin. Chicago: Probus Publishing, 1993.

“Equity-Linked Cross Currency Swaps” with Philip G. Nehro, Cross Currency Swaps, edited by Carl R Beidleman. Homewood, IL: Business-One Irwin, 1992.

“An Introduction to Currency Insurance” Global Portfolios – Quantitative Tools for Maximum Performance, edited by Robert Aliber and Brian Bruce. Homewood, IL: Dow Jones-Irwin, 1991.

Expert Witness

Terry L. Wright & Cheryl A. Wright v. Commissioner of Internal Revenue – Expert Report for United States Tax Court (March 2023).

Gentry T. Beach and Robert A. Vollero v. Touradji Capital Management, LP – Testimony for Supreme Court of the State of New York (February 2023).

Shahid R. Khan, et al. v. BDO Seidman, LLP, et al. – Expert Report, Rebuttal, and Deposition for Sixth Judicial Circuit Court, Champaign County, Illinois (January 2023).

Yoel Goldenberg v. Charles Schwab Futures and Forex LLC, TD Ameritrade, Inc., and William Bolton – Expert Report and Testimony for Arbitration Committee, National Futures Association (April 2022).

David Jaroslawicz, et al. v. M&T Bank Corporation, Hudson City Bancorp, et al. – Expert Report for District of Delaware (April 2022).

Richard G. Pestell, M.D., Ph.D. v. Cytodyn Inc.; Cytodyn Operations Inc.; Nader Z. Pourhassan, Ph.D.; and Scott A. Kelly, M.D. – Expert Report for District of Delaware (September 2021).

Stafford Broumand, M.D. v. Michael Abbot, Nicolas Vita, Columbia Care, et al. – Expert Report, Rebuttal, Deposition, and Testimony for American Arbitration Association (February 2021).

NorthEast Metal Traders, Inc., and Wallach Trading Co., Inc. v. TAV Holdings, Inc., and Joseph Smith & Sons, Inc. – Rebuttal Report and Deposition for Eastern District of Pennsylvania (December 2020).

Robert Moyer, et al. v. Commissioner of Internal Revenue – Expert Report for United States Tax Court (November 2019).

United States of America v. Akshay Aiyer – Testimony for Southern District of New York (October 2019).

A. Scott Logan v. United States of America – Expert Report and Deposition for Middle District of Florida (June 2019).

United States of America v. Usher, et al. – Testimony for Southern District of New York (October 2018).

Ginsburg v. United States of America – Expert Report and Deposition for Middle District of Florida (September 2018).

Carver, et al. v. The Bank of New York Mellon, et al. – Expert Reports, Affidavits, and Depositions for Southern District of New York (July 2018).

Upsher-Smith Laboratories, Inc. v. Fifth Third Bank – Expert Report for District of Minnesota (March 2018).

R.K. Lowry, et al. v. BDO Seidman, LLP, Randy L. Moorman, Lawrence Cohen, Robert Greisman, and Paul Shanbrom – Expert Report in Arbitration before the International Centre for Dispute Resolution (November 2017).

Expert Witness, cont.

United States of America v. Johnson, et al. – Testimony for Eastern District of New York (September 2017).

ECD Investor Group, et al. v. Credit Suisse International, et al. – Expert Report and Deposition for Southern District of New York (January 2017).

CL King & Associates, Inc. v. William Nicklin – Testimony for FINRA Arbitration, New York (August 2016).

Keith A. Tucker & Laura B. Tucker v. Commissioner of Internal Revenue – Expert Report, Rebuttal, and Testimony for United States Tax Court (March 2016).

Gramercy Advisors, LLC, and Gramercy Capital Recovery Fund II, LLC, v. J.A. Green Development Corp., JAGI, Inc., and JAGI VERDI, Inc. – Affidavit for American Arbitration Association (December 2015).

State of New York, *ex rel. FX Analytics* v. The Bank of New York Mellon – Expert Report for Supreme Court of the State of New York (June 2015).

Russian Recovery Fund Limited v. United States of America – Expert Report, Rebuttal, Deposition, and Testimony for Department of Justice Court of Federal Claims (April 2015).

LBI hf v. Cooperatieve Centrale Raiffeisen-Boerenleenbank B.A. (trading as Rabobank International) – Expert Reports for High Court of Justice, Queen’s Bench Division, Commercial Court (April 2015).

New Millenium Trading, LLC, AJF-1, LLC, Tax Matters Partner v. Commissioner of Internal Revenue – Expert Report, Rebuttal, and Testimony for United States Tax Court (February 2015).

Bank of New York Mellon Corporation Foreign Exchange Transactions Litigation – Expert Report for Southern District of New York (January 2015).

SSW Holding Company, Inc., Straits Steel & Wire Co., and Straits Diversification, LLC, v. Gramercy Advisors, LLC, et al. – Expert Report for Court of Sebastian County, Arkansas (December 2014).

Shasta Strategic Investment Fund, LLC, et al. v. United States of America – Expert Report, Deposition, and Declarations for Northern District of California (May 2014).

Glitnir hf v. The Toronto Dominion Bank – Expert Report for High Court of Justice, Queen’s Bench Division, Commercial Court (April 2014).

United States of America v. Paul M. Dagerdas, Donna M. Guerin, Denis M. Field, Raymond Craig Brubaker, and David K. Parse – Testimony for Southern District of New York (April 2011 & October 2013).

Securities and Exchange Commission v. True North Finance Corporation, et al. – Expert Report for District of Minnesota (January 2013).

United States of America v. Frank Elroy Vennes, Jr., and James Nathan Fry – Rebuttal Report for District of Minnesota (January 2013).

Expert Witness, cont.

United States of America v. Lawrence DiCristina – Response and Testimony for Eastern District of New York (August 2012).

Stokors SA, Lucien Selce, and Phoenicia Assets Management (Holding) SAL v. IG Markets Limited – Expert Report and Witness Statement for High Court of Justice, Queen’s Bench Division, Commercial Court (June 2012).

David Gillis and Ester Sidis v. Societe Air France, The Greater Toronto Airport Authority, and NAV Canada – Expert Report for Ontario Superior Court of Justice (May 2012).

United States of America v. Myron Gushlak – Declaration and Testimony for Eastern District of New York (February 2012). Judgment affirmed by the 2nd Circuit Appellate Court, August 2013 (extensive reference to Dr. DeRosa’s Testimony).

Allied Irish Bank. v. Bank of America, et al. – Expert Report, Rebuttal, and Deposition for Southern District of New York (January 2012).

Pointe Du Hoc Irrevocable Trust, Joseph A. Zebrowski, Jr., Trustee v. Commissioner of Internal Revenue – Expert Report for United States Tax Court (October 2011).

V.I. Derivatives, LLC, by VIFX, LLC, its Tax Matters Partner, by Richard Vento, its Tax Matter Partner v. United States of America – Expert Report for District of the Virgin Islands (October 2011).

AD Global FX Fund, LLC, et al. v. United States of America – Expert Report and Deposition for Southern District of New York (July 2011).

Aventuri Trading, LLC, LBW, LLC, A Partner Other Than the Tax Matters Partner v. Commissioner of Internal Revenue – Expert Report for United States Tax Court (May 2011).

James Charles Vaughn v. United States of America, Internal Revenue Service – Expert Report, Deposition, and Testimony for Bankruptcy Court for District of Colorado (November 2010).

Wells Fargo Bank, N.A. v. HomeBanc, et al. – Expert Report and Deposition for Bankruptcy Court for District of Delaware (October 2010).

United States of America v. Ohle, et al. – Testimony for Southern District of New York (September 2010).

George L. Miller, Chapter 7 Trustee of the bankruptcy estates of American Business Financial Services, Inc. v. BDO Seidman – Expert Report and Deposition for AAA Arbitration (August 2010).

LVI Investors, LLC, John K. Luke, Tax Matters Partner v. Commissioner of Internal Revenue – Expert Report for United States Tax Court (August 2010).

DKAP, LLC, MSHL, LLC, A Partner Other Than the Tax Matters Partner v. Commissioner of Internal Revenue – Expert Report for United States Tax Court (August 2010).

Expert Witness, cont.

YBCB, LLC, BRMM, LLC, A Partner Other Than the Tax Matters Partner v. Commissioner of Internal Revenue – Expert Report for United States Tax Court (August 2010).

HNRV, LLC, TKRM, LLC, A Partner Other Than the Tax Matters Partner v. Commissioner of Internal Revenue – Expert Report for United States Tax Court (August 2010).

Murfam Farms, et al. v. United States of America – Expert Report, Rebuttal, Deposition, and Testimony for United States Court of Federal Claims (April 2010).

NPR Investments, LLC v. United States of America – Expert Report, Deposition, and Testimony for Eastern District of Texas (March 2010).

MK Link Investments Limited Partnership, et al. v. WSW Capital, Inc., et al. – Expert Report and Testimony for Supreme Court of the State of New York (March 2010).

George L. Miller, Chapter 7 Trustee of the bankruptcy estates of American Business Financial Services, Inc. and subsidiaries v. Anthony J. Santilli, deceased, et al., Defendants – Expert Report and Deposition for Philadelphia Court of Common Pleas (June 2009).

Fidelity High Tech Advisor A Fund, LLC, by the Tax Matters Partner v. United States of America – Expert Report, Deposition, and Testimony for District of Massachusetts (December 2008).

American Boat Company, LLC, et al. v. United States of America – Expert Report and Testimony for Southern District of Illinois (November 2008).

United States of America v. Thomas Qualls – Testimony for Eastern District of New York (October / November 2008).

K2 Trading Ventures, LLC, et al. v. United States of America – Expert Report, Deposition, and Testimony for United States Court of Federal Claims (September 2008).

Securities and Exchange Commission v. Colonial Investment Management, LLC, et al. – Expert Report and Deposition for Southern District of New York (August 2008).

Gary Woods, as Tax Matters Partner of Tesoro Drive Partners v. United States of America – Expert Report, Rebuttal, and Deposition for Western District of Texas (August 2008).

Alpha I, LP, et al. v. United States of America – Expert Report and Deposition for Court of Federal Claims (May 2008).

Stobie Creek Investments, LLC, et al. v. United States of America – Expert Report, Rebuttal, Deposition, and Testimony for United States Court of Federal Claims (April 2008).

Sala, et al. v. United States of America – Expert Report, Deposition, and Testimony for District of Colorado (March 2008).

Expert Witness, cont.

Tigers Eye Trading, LLC, Sentinel Advisors, LLC, Tax Matters Partner v. Commissioner of Internal Revenue – Expert Report and Rebuttal for United States Tax Court (February 2008).

Penske, et al. v. Lewis, Rice & Fingersh, LLC – Expert Report for Eastern District of Pennsylvania (August 2007).

Cappy Court Partners, Lysander David, Tax Matters Partner v. Commissioner of Internal Revenue – Expert Report for United States Tax Court (July 2007).

Carmel Partners, et al. v. United States of America – Expert Report, Rebuttal, and Deposition for Southern District of Indiana (May 2007).

JZ Buckingham Investments, LLC v. United States of America – Expert Report, Rebuttal, and Deposition for United States Court of Federal Claims (May 2007).

Klamath v. United States of America and Kinabalu v. United States of America – Expert Report, Deposition, and Testimony for Eastern District of Texas (October 2006).

COLM Producer, Inc. v. United States of America – Expert Report and Deposition for Northern District of Texas (January 2006).

Compton, et al. v. Alex Brown, et al. – Deposition for Circuit Court of Baltimore City (January 2006).

Jade Trading, et al. v. United States of America – Expert Report, Deposition, and Testimony for United States Court of Federal Claims (September 2005).

Evergreen Security, Ltd. v. Windels Marx Lane & Mittendorf, LLP – Expert Report for Middle District of Florida (November 2003).

State of Florida v. Richard Maseri – Deposition for Circuit Court of Florida (November 2003).

United States of America v. Evergreen International Spot Trading, Inc., et al. – Testimony for Eastern District of New York (May – June 2003).

Opening Trade in Financial Services – The Chile and Singapore Examples” – Testimony before the U.S. House of Representatives Committee on Financial Services (April 2003).

High Risk Opportunities Hub Fund Ltd., (In Liquidation), by and through G. James Cleaver and L Daniel Scott, Joint Official Liquidators v. Credit Lyonnais & Societe Generale – Affidavit for Supreme Court of the State of New York (May 2002).

Hermes v. JP Morgan – Affidavit for Superior Court of New York (2002).

Re: Enron – Testimony for U.S. Bankruptcy Court for Southern District of New York (January 2001).

de Kwiatkowski v. Bear Stearns & Co., et al. – Expert Report, Deposition and Testimony for Southern District of New York (May 2000).

Expert Disclosure – Professor Richard Lyons

(September 1, 2023)

Professor Richard Lyons is the Associate Vice Chancellor for Innovation & Entrepreneurship, and the William & Janet Cronk Chair in Innovative Leadership at the University of California, Berkeley. The Government expects to call Professor Lyons to testify regarding economic concepts and data analysis, as further described below.

A. Qualifications and Prior Testimony

Professor Lyons has extensive experience researching and publishing on FX markets and microstructure, including the textbook *The Microstructure Approach to Exchange Rates*. His textbook and decades of publication in this field are based on direct observation of foreign exchange traders and trading floors and use of data from multiple trading systems. His opinions are based on his research, teaching, and experience, including, but not limited to the materials cited herein. A copy of Professor Lyons’ CV, as well as a list of all publications authored by Professor Lyons, is attached as Appendix A.

Professor Lyons has previously testified in *United States v. Akshay Aiyer* (No. 20-3594 (2d Cir. 2022)) and *CFTC v. Michael Zelener* (No. 03 C 4346).

Professor Lyons is compensated for his time at the rate of \$1,250 per hour. His work is being supported by personnel at the consulting firm Analysis Group, which has performed research and analysis under his direction. Analysis Group is being compensated separately for its work on this matter. Neither Professor Lyons’ compensation nor that of Analysis Group is contingent upon Professor Lyons’ testimony or the outcome of this matter.

B. Summary of Materials Reviewed

In preparing his opinions, Professor Lyons has received and reviewed materials produced in discovery during the course of this case, including materials listed in Appendix B.

C. Anticipated Opinions

The Government anticipates that Professor Lyons will offer the following opinions during his testimony:

1. Professor Lyons’s testimony will include necessary background so the jury can understand the concepts and bases for his opinions, including the following: Professor Lyons will provide a general summary of FX markets, including the market for South African Rand (“ZAR”); a description of how the FX market operates, including how and where FX is traded; and basic background of FX derivatives and options.

2. Professor Lyons will identify Glen Point’s relevant United States Dollar (“USD”)ZAR option positions around the trading activity at issue in December 2017, using Glen Point’s trading data. This will include identifying key characteristics and the timeline of the one touch barrier option entered on October 30, 2017 with a strike price of 12.50 USD/ZAR (the “At-Issue Option”).

3. Professor Lyons will explain that Glen Point did not itself trade in the market on December 26, 2017, but rather asked trader(s) at Nomura to execute trades on its behalf between 1:50 and 2:48 AM South Africa Standard Time (“SAST”) on that date (“Relevant Period”). As a result, the trading data provided by Glen Point does not include detailed information on the individual trades such as the size, price, and exact timing of execution, but rather only shows that it made one large sale of \$725 million USD for South African Rand to Nomura on this date. Professor Lyons will further explain that the Nomura trading data available in this case does include detailed trading records and that he relies on these data for many of the analyses to which he intends to testify. The Nomura data do not distinguish the underlying clients (such as Glen Point) that it was trading on the behalf of, however, Nomura sold approximately \$729 million USD/ZAR in the interdealer market during the Relevant Period, and the Nomura trade with Glen Point was \$725 million of that volume. As such, nearly all of Nomura’s selling was on the behalf of Glen Point. His opinion is based principally on Nomura and Glen Point trading data, as well as messages between Glen Point and Nomura during the Relevant Period.

4. Professor Lyons will explain typical trading patterns observed in the USD/ZAR market based on the market data available to him, including data from Refinitiv and FastMatch, which is where the Nomura did the significant majority of its trading on behalf of Glen Point during the Relevant Period. He will explain that the USD/ZAR market has a typical pattern of active, liquid trading from roughly 9am through 7pm SAST, and inactive, less liquid trading from roughly 7pm to 9am SAST.¹

5. Professor Lyons will testify about the typical trading pattern and liquidity observed in the USD/ZAR market around weekends and holiday periods, including Christmas and Boxing Day. Professor Lyons will use data from the Refinitiv platform for the period 2015 through end of 2018 to show that trading on weekends, Christmas, and Boxing Day was drastically lower than on weekdays.

6. Professor Lyons will present analyses showing that Glen Point’s volume of trading in USD/ZAR during the Relevant Period was highly anomalous for that time of day, and, in fact, anomalous relative to any point in the typical trading day. It was also a large and unusual volume of trading relative to the *maximum* observed trading volumes across all days during the October 2017 through January 2018 period.

7. Professor Lyons will present analyses showing that Glen Point’s volume of trading in USD/ZAR during the Relevant Period, which occurred on Boxing Day 2017, was significantly greater than that observed on weekends, Christmas Day, and Boxing Day in 2015, 2016 and 2018.

8. Professor Lyons will present data showing how the USD/ZAR price evolved from the time the At-Issue Option was entered into on October 30, 2017, through the Relevant Period on December 26, 2017. This will include a general explanation of how the change in USD/ZAR price before Christmas Day 2017 corresponded to certain events in South Africa. Professor Lyons will also explain that, on Christmas Day, the price was roughly 12.60 USD/ZAR, and on December

¹ Trading patterns over the 24-hour FX trading day are well documented in, e.g., in Anderson and Bollerslev (1997), “Intraday Periodicity and Volatility Persistence in Financial Markets,” *Journal of Empirical Finance*. See also Dacorogna, Muller, Nagler, Olsen and Pictet (1993), “A geographical model for the daily and weekly seasonal volatility in the foreign exchange market,” *Journal of International Money and Finance*.

26 the rate fell suddenly and sharply over a relatively short interval, below 12.50 USD/ZAR, coinciding with Nomura's trading in the market on the behalf of Glen Point.

9. Professor Lyons will present analyses showing that during the Relevant Period, coinciding with the abrupt decline in market price, while Nomura (trading on behalf of Glen Point) was trading on Refinitiv and FastMatch, there were few other market participants and Nomura accounted for the vast majority of sell-side trading volume on those platforms. Professor Lyons will testify that while other market participants were also selling on these platforms, in more limited amounts, during the Relevant Period, the sequencing of trading activity is consistent with these other market participants entering the market in response to Nomura's trading. He will further testify, based on his experience and research, that such induced trading is a commonly observed phenomenon in FX markets.²

10. Professor Lyons will further testify that Nomura's trading on behalf of Glen Point during the Relevant Period directly influenced the prevailing market price by lowering the price and signaling that there was USD selling pressure against ZAR. Professor Lyons will explain that the Refinitiv data shows that Nomura's offers were placed on the platform and hit outstanding bids, which resulted in the best bid on the platform steadily declining during the trading period. This clearing of bids, absent market participants placing new, higher bids, mechanically results in a lower mid-price on the platform. This trading behavior also signals to market participants that there is selling pressure in the market, inducing other market participants to lower their bids and offers, i.e., reducing the market price.³

11. Professor Lyons will testify that there is no evidence that the USD/ZAR market price would have fallen below 12.50 based on the natural interplay of supply and demand during the Relevant Period, absent Glen Point's trading. In particular, he will testify that the rebound in the market price from below 12.50 USD/ZAR to above 12.60 USD/ZAR by midday SAST on December 26, 2017, which began in the early morning hours shortly after the end of the relevant trading period, is consistent with Nomura's trading causing the market price to decline and is consistent with such a decline not having occurred absent Nomura's trading. Short term price rebounds such as the one observed here are well studied phenomena in the FX microstructure literature and are generally deemed indicative of temporary dislocations in market prices.⁴

12. Professor Lyons will further testify that the market price's decline in subsequent days below 12.50 USD/ZAR is not evidence that the price would have reached 12.50 USD/ZAR

² See, e.g., Hasbrouck (2022), *Securities Trading: Principles and Procedures*, especially chapters 4, 7, and 16 (available online from the author). See also Lyons (2001), *The Microstructure Approach to Exchange Rates*, especially the index references on Liquidity, which includes ground-breaking papers like Kyle (1985), "Continuous Auctions and Insider Trading," *Econometrica*.

³ See, e.g., Evans and Lyons (2002), "Order Flow and Exchange Rate Dynamics," *Journal of Political Economy*, and the many other references on this issue in Lyons (2001), op cit., e.g., Payne (2003), "Informed trade in spot foreign exchange markets: An empirical investigation," *Journal of International Economics*.

⁴ See, e.g., Cao, Evans and Lyons (2006), "Inventory Information," *Journal of Business*, especially on the measurement of currency price movements that are transitory. Payne (2003), op cit., also addresses the transitory components of foreign exchange prices.

during the Relevant Period, absent Nomura's trading.⁵ The trajectory of the market price on subsequent days is driven by macroeconomic developments and supply and demand conditions. Markets react quickly to such new information. The impact of a single event, such as Glen Point's trading during the Relevant Period, should be considered only in the context of immediate market developments, i.e., in this case during and shortly after the Relevant Period.⁶

13. Professor Lyons will testify that Glen Point's trading during the Relevant Period was not an economically sensible way to sell USD for ZAR. Investing in FX markets, like in all financial markets generally, follows the simple logic of "buy low, sell high" where investors seek to gain by acquiring an asset (currency) at as low of a price as possible, and then sell that asset at as high of a price as possible, with the intent of earning a profit. It follows that an investor pursuing an economically sensible strategy to sell USD for ZAR would seek to sell USD at as high of a price as possible against ZAR to maximize potential profits from its strategy.

14. Relatedly, Professor Lyons will testify that the economically sensible strategy when buying or selling currency is to seek to *minimize* the price impact of that trading on the market. This is because traders typically execute multiple trades to buy or sell a large volume of currency (as Glen Point did) and want to be able to execute the later trades at good prices. In other words, if traders are selling, they typically aim to avoid having their trading push the market price down, avoid clearing outstanding orders on the trading platforms, and avoid making their intent to sell large volumes clear to the market.⁷

15. Professor Lyons will testify that Glen Point's trading strategy for selling USD and buying ZAR shows that Glen Point's actions were not consistent with an effort to get the possible best pricing or to minimize the price impact of their trading. In this respect the observed trading patterns were not economically sensible absent the alleged intent to move the market price below 12.50 USD/ZAR. For example:

- a. Glen Point sought to execute a large, \$725 million trade, over approximately one-hour, during a highly illiquid time in the USD/ZAR markets on a highly illiquid day. FX market participants typically seek to trade large positions during liquid periods to minimize the price impact of their trading and to buy at the lowest average price across their trades (or sell at the highest average price), and even then generally spread their trading over time.
- b. Nomura, trading on the behalf of Glen Point, opted to trade on FastMatch, in particular, after 2:35 SAST, at prices *below* the best bid available on Refinitiv at the same time, i.e., Nomura traded on FastMatch despite better pricing being available on Refinitiv. Traders would typically aim to achieve the best pricing, in

⁵ Professor Lyons's proposed testimony on this issue is not a concession that evidence of this exchange-rate change is admissible. This distinction is also addressed in the classic paper by Hasbrouck (1991), "Measuring the information content of stock trades," *Journal of Finance*.

⁶ See Lyons (2001), op. cit., on the role of macroeconomic information arrival in foreign exchange markets and the distinction between trading-caused price movements and price movements from public news. See also the classic paper by Admati and Pfleiderer (1988), "A theory of intraday patterns: Volume and price variability," *Review of Financial Studies*.

⁷ See Hasbrouck (2022), op. cit., especially chapters 15, 16, and 18.

this case selling at the highest price possible, rather than moving to platforms to sell at lower, less favorable prices.

- c. As explained above, shortly after Glen Point stopped selling USD during the Relevant Period, the USD/ZAR exchange rate rebounded above 12.50 USD/ZAR. Glen Point, however, did not return to selling USD for ZAR, which would not be consistent with a strategy to sell at more advantageous prices above 12.50 USD/ZAR.

16. In addition, Professor Lyons will testify that Glen Point's strategy and chat discussion also appear at odds with the effort to sell USD at a high price and minimize the impact of that selling.

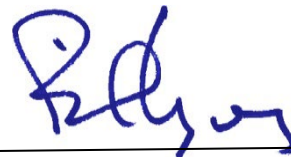
- a. Mr. Phillips repeatedly stated in the chats that he sought to trade at a specific price level that was worse than the prevailing market price ("My aim is to trade thru 50"). Had Glen Point sought to sell USD and purchase ZAR one would expect it to seek the best possible price for the volume it intended to trade rather than to seek to trade at a particular, lower and less favorable price.
- b. Mr. Phillips requested that the Nomura trader sell very large volumes of USD in a short period of time despite doing so in a market the Nomura trader described as illiquid ("liquidity very thin") and despite the Nomura trader suggesting that trading slowly would minimize price impact ("We will have to go very slowly to minimize price impact").

17. Professor Lyons will also testify that Glen Point's records show that Glen Point was not selling USD to hedge an existing risk position unrelated to the At-Issue Option, and was trading in the wrong direction (selling USD) if it were attempting to hedge the At-Issue Option. Glen Point had an existing, large net short USD position (against ZAR) and the spot trades during the Relevant Period further increased this short position. As such, the trading was in the wrong direction to hedge the At-Issue Option.

18. Professor Lyons will present data showing Glen Point's net daily spot and forward trading in USD/ZAR over the course of 2017. Professor Lyons will testify that Glen Point's net spot and forward USD/ZAR trading during the Relevant Period was drastically larger than any other period during 2017. The only remotely comparable period of trading occurred on or about December 28, 2017, when Glen Point unwound much of the position that it took during the Relevant Period.

D. Approval and Signature

I hereby approve the disclosure of my qualifications, anticipated opinions, and bases for such opinions, as set forth above.



Professor Richard Lyons

Appendix A

RICHARD K. (RICH) LYONS

UC Berkeley
Berkeley, CA 94720

lyons@berkeley.edu
Twitter: @richlyons

LEADERSHIP

University

Associate Vice Chancellor for Innovation & Entrepreneurship, UC Berkeley (UCB) campus.
Dean, Haas School of Business, UCB, 2008-18.

- Anchored the culture of Berkeley Haas in four defining principles (shorturl.at/avyl7).
- Brought in eight of ten largest gifts in Haas School's history.
- Established and launched vision for suite of dual-degree programs with STEM fields.

Co-Chair, UCB campus-wide Strategic Plan Steering Committee, 2017-18.

Divisional Council of UCB Academic Senate, 2001-2.

Chair, UC President's Council for Entrepreneurship, 2023-24.

Private Sector

Board member, Matthews Asia Funds.

Board member, Syntax Funds LLC.

Chief Learning Officer, Goldman Sachs (GS), 2006-08.

- Headed leadership development for Managing Directors and GS University.

Board member, iShares, Barclays Global Investors (until had to step down to join GS).

General Building Contractor, State of California (license expired, #443785).

Civic Sector

Finance Committee Member, Ashesi University Foundation (university in Accra, Ghana).

Board member, Bay Area Council Economic Institute, 2012-2017.

Board member, Association to Advance Collegiate Schools of Business (AACSB), 2012-15.

ACADEMIC

Positions

Cronk Chair in Innovative Leadership, since 2018.

Professor of Economics and Finance, Haas School, UCB, since 1993.

Professor of Economics, Columbia Business School, Asst. Professor, 1987-93.

Summer Intern, Board of Governors of the Federal Reserve System, 1985.

Honors

Berkeley Citation, 2018.

Distinguished Teaching Award, highest career teaching honor at UCB, 1998.

Diversity: Schoen Award (from The Consortium for adv. access for under-rep. groups).

Excellence in Management Award, UCB, 2022.

Teacher-of-the-year, Haas School MBA Program, 1994, 1995, 1996, 1999, 2000, 2003.

National Science Foundation Graduate Fellowship, 1984-87.

Highest Honors, UCB, 1982 | Phi Beta Kappa, 1981.

Selected Publications

Book: *The Microstructure Approach to Exchange Rates*, MIT Press, 2001.

"Order Flow and Exchange Rate Dynamics," with M. Evans, *J. of Political Economy*, 2002.

"External Effects in US Procyclical Productivity," with R. Caballero, *J. of Mon. Econ.*, 1992.

"Not Just Hollywood: How to Create a Gender-Inclusive Company," *Forbes Online*, 2017.

Case: "Berkeley Haas: Codifying, Embedding, & Sust. Culture (B)," with J. Chatman, 2019.

"What Keeps Stablecoins Stable?" *J. of Int'l Money & Finance*, March 2023.

PERSONAL

PhD (Economics) MIT, 1984-87; BS (Business—Finance) UC Berkeley, 1979-82.

Member, Council on Foreign Relations.

Misc: Married, two children. Fluent French. Principal obsession (my wife's word): guitar.

RICHARD K. (RICH) LYONS
Associate Vice Chancellor and Former Dean, UC Berkeley

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 Twitter: @richlyons

POSITIONS	<p>Assoc. Vice Chancellor and Chief Innovation & Entrep. Officer, UCB, since 2020. Chair, UC President's Council for Entrepreneurship, since 2023. Dean, Haas School, UCB, 2008-18 (Acting Dean 2004-05). Professor, Haas School, UCB (Chair/Full/Assoc/Asst), since 1993. Chief Learning Officer, Goldman Sachs, New York, 2006-08. Professor, Columbia Business School (Assoc/Asst), 1987-93. Summer Intern, Board of Governors of the Federal Reserve System, 1985. Research Analyst, SRI International, Menlo Park, 1983-84. General Contractor, CA license #443785 (issued 1983, expired).</p>
EDUCATION	<p>PhD (Economics) MIT, 1984-87. Focus fields: International and Macro. BS (Business) UC Berkeley, 1979-82. Focus field: Finance.</p>
HONORS	<p><u>Scholastic</u> Highest Honors, UC Berkeley, 1982 National Science Foundation Graduate Fellowship, 1984-87 Beta Gamma Sigma, 1981 Phi Beta Kappa, 1981</p> <p><u>Research</u> National Science Foundation grant, sole investigator, 1994-97 National Science Foundation grant for Special Creativity, 1997-00 National Science Foundation grant, co-investigator, 2000-03 Nominating Committee, American Finance Association, 2000 Schwabacher Fellowship, UC Berkeley, 1994 International Affairs Fellowship, Council on Foreign Relations, 1993</p> <p><u>Teaching</u> Career teaching award (DTA), highest at UC Berkeley, 1998 Teacher-of-the-year, UC Berkeley, MBA: 1994, 2000 Teacher-of-the-year, UC Berkeley, Evening MBA: 1995, 1996, 1999 Teacher-of-the-year, UC Berkeley, MS in Fin. Eng. (MFE): 2003</p> <p><u>Professional</u> Excellence in Management Award, UC Berkeley, 2022 Berkeley Citation, 2018 Sterling Schoen Award (for advancing URM access to management education) William & Janet Cronk Chair in Innovative Leadership, since 2018</p>
PERSONAL	<p>Born 10 February 1961 (USA). Married, two kids (22 & 19). French fluent. Principal hobby: guitar; musical copyrights.</p>

**PROFESSIONAL
ACTIVITIES**

Leadership (UCB)

Co-Chair, campus-wide Strategic Plan Steering Committee, UCB (2017-18)
 Intercollegiate Athletics Taskforce, UCB (2016-17)
 Divisional Council of UCB Faculty Senate, ex-officio as COMS chair (2001-02)
 Chair, UC President's Council for Entrepreneurship (2023-24)
 Board Chair, Bakar BioEnginuity Hub, UCB, since 2021
 Campus Capital Campaign Funding-Model Task Force (2015-16)
 Campus Steering Committee for Online Education (2012-18)
 Co-Sponsor, Campus High Performance Culture initiative (2011-14)
 Acting Dean, Haas School (2004-05)
 Executive Associate Dean, Haas School (2005-06)
 Associate Dean for Academic Affairs, Haas School (2004)
 Faculty Chair, Haas School (2004)
 Chair, Finance Group, Haas School (2001-02)
 Chair, Policy and Planning Committee, Haas School (1996-97, 2003-04)

Academic

Research Associate, National Bureau of Economic Research (IFM, AP)
 Assoc. Editor, *California Management Review* (former)
 Assoc. Editor, *Journal of Financial Markets* (former)
 Assoc. Editor, *Emerging Markets Review* (former)
 Advisory Board, *Economic Policy Review* (NY Fed, former)
 Extended academic visits: London School of Economics, U. Toulouse, Stockholm
 U., and U. Aix-Marseille

Professional

Board of Trustees, Matthews Asia Funds
 Board of Trustees, Syntax ETF Trust
 Finance Committee, Ashesi University Foundation (university in Accra, Ghana)
 Board member, Bay Area Council Economic Institute (former).
 Board member, Association to Advance Collegiate Schools of Business (former).
 Trustee, iShares Inc. (until Goldman Sachs CLO role in 2006)
 Trustee, Barclays Global Investors Funds (until Goldman Sachs)
 Member, Council on Foreign Relations
Who's Who in America listing
 Consultant: Past work for IMF, World Bank, Federal Reserve Bank, European
 Commission, United Nations, and Citibank

Books

The Microstructure Approach to Exchange Rates, MIT Press: Cambridge, MA, published December 2001. Chinese publication by the China Financial Publishing House in 2014. This monograph presents a new, micro-based approach to exchange rate economics (for a clearinghouse for the field, see faculty.haas.berkeley.edu/lyons/NewField.html).

ACADEMIC PUBLICATIONS

"Tests of the Foreign Exchange Risk Premium Using the Expected Second Moments Implied by Option Pricing," *Journal of International Money and Finance*, March 1988, 91-108 (thesis #1).

"Internal versus External Economies in European Industry," with R. Caballero, *European Economic Review*, June 1990, 805-830.

"Whence Exchange Rate Overshooting: Money Stock or Flow?" *Journal of International Economics*, November 1990, 369-384 (thesis #2).

"The Mutual Amplification Effect of Exchange Rate Volatility and Unresponsive Trade Prices," with R. Baldwin, *Journal of International Financial Markets, Institutions & Money*, Spring 1991, 1-20.

"The Potential for Self-fulfilling Expectations: External Economies and European Integration," with R. Baldwin, *European Economy*, 1991, 56-75.

"External Effects and Europe's Integration," with R. Caballero, in A. Winters and A. Venables eds., *European Integration: Trade and Industry*, Cambridge University Press, 1991, 34-51.

"Floating Exchange Rates in Peru, 1950-54," *Journal of Development Economics*, January 1992, 99-118 (thesis #3).

"External Effects in U.S. Procyclical Productivity," with R. Caballero, *Journal of Monetary Economics*, April 1992, 209-225.

"The Case for External Economies," with R. Caballero, in A. Cukierman, Z. Hercowitz, and L. Leiderman eds., *Political Economy, Growth, and Business Cycles*, MIT Press, 1992, 117-139.

"Exchange Rate Hysteresis? Large vs Small Policy Misalignments," with R. Baldwin, *European Economic Review*, January 1994, 1-22.

"Customer- and Supplier-Driven Externalities," with R. Caballero and E. Bartelsman, *American Economic Review*, September 1994, 1075-84.

"Fundamental Determinants of National Equity Market Returns: A Comment," in J. Frankel ed., *Internationalization of Equity Markets*, University of Chicago Press, 1994, 146-147.

"Explaining Forward Exchange Bias ... Intraday," with A. Rose, *Journal of Finance*, September 1995, 1321-1329.

"Tests of Microstructural Hypotheses in the Foreign Exchange Market," *Journal of Financial Economics*, October 1995, 321-351.

"Optimal Transparency in a Dealer Market with An Application to Foreign Exchange," *Journal of Financial Intermediation*, July 1996, 225-254.

ACADEMIC PUBLICATIONS

"Foreign Exchange Volume: Sound and Fury Signifying Nothing?" in J. Frankel et al., eds., *The Microstructure of Foreign Exchange Markets*, University of Chicago Press, 1996, 183-201.

"Heterogeneous Behavior in Exchange Rate Crises: A Comment," in J. Frankel et al., eds., *The Microstructure of Foreign Exchange Markets*, University of Chicago Press, 1996, 257-259.

"Dynamic Hedging and the Interest Rate Defense: A Comment," in J. Frankel et al., eds., *The Microstructure of Foreign Exchange Markets*, University of Chicago Press, 1996, 226-227.

"A Study of the Reuters D2000-2 Foreign Exchange Trading System: A Comment," in J. Frankel et al., eds., *The Microstructure of Foreign Exchange Markets*, University of Chicago Press, 1996, 180-182.

"Microstructure of the Foreign Exchange Market," in T. Ito and D. Folkerts-Landau, eds., *International Capital Markets*, International Monetary Fund, September 1996, 125.

"A Simultaneous Trade Model of the Foreign Exchange Hot Potato," *Journal of International Economics*, May 1997, 275-298.

"Explaining Trading Volume in Foreign Exchange: Lessons From Tokyo," *FRBSF Economic Letter*, #97-38, December 26, 1997.

"Profits and Position Control: A Week of FX Dealing," *Journal of International Money and Finance*, February 1998, 97-115.

"Options and the Currency Risk Premium," in Z. Chen ed., *Currency Options and Exchange Rate Economics*, World Scientific Publishing, April 1998, 94-107.

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"Mutual Fund Investment in Emerging Markets: An Overview," with G. Kaminsky and S. Schmukler, *World Bank Economic Review*, 2001, 15(2), 315-340. Reprinted in S. Claessens and K. Forbes (eds.), *International Financial Contagion*, Kluwer: Boston, 2001, 157-186.

ACADEMIC PUBLICATIONS

"Introduction: Capital Market Integration Special Issue," *Journal of International Financial Markets, Institutions & Money*, September 2001, 241-244.

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"New Perspective on FX Markets: Order-Flow Analysis," *International Finance*, Summer 2001, 303-320.

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"Is There Private Information in the Foreign Exchange Market? The Tokyo Experiment," with T. Ito and M. Melvin, reprinted in *New Developments in Exchange Rate Economics*, L. Sarno and M. Taylor (eds.), Edward Elgar, 2002.

"Order Flow and Exchange Rate Dynamics," with M. Evans, *Journal of Political Economy*, February 2002, 170-180. Reprinted in R. Sweeney (ed.), *Foreign Exchange Markets*, Edward Elgar, Northampton, 2006.

"Foreign Exchange: Macro Puzzles, Micro Tools," *Economic Review*, June 2002, 51-69 (Federal Reserve Bank of San Francisco).

"Customer Trades and Extreme Events in Foreign Exchange," with M. Fan, in *Central Banking, Monetary Theory and Practice: Essays in Honor of Charles Goodhart*, edited by P. Mizen, Edward Elgar, 2003, 160-179.

"The Future of the Foreign Exchange Market," *Brookings-Wharton Papers on Financial Services*, Robert Litan and Richard Herring (eds.), Brookings Institution Press: Washington, DC, 2002, 253-280.

"The Failure of Empirical Exchange Rate Models: Room for Optimism?" May 2002, *Economic Policy* (web essay), at www.economic-policy.org/commentaries.asp.

"Theoretical Perspective on Euro Liquidity," *Economic Policy*, October 2002, 35: 573-597.

"Portfolio Balance, Price Impact, and Secret Intervention," paper synopsis, in *Financial Market Structure and Dynamics*, Bank of Canada, September 2002, 107-110.

"Conference Summary Discussion 3," in *Financial Market Structure and Dynamics*, Bank of Canada, September 2002, 133-139.

"Time-Varying Liquidity in Foreign Exchange," with M. Evans, *Journal of Monetary Economics*, 2002, 49(5): 1025-1051.

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“Informational Integration and FX Trading,” with M. Evans, *Journal of International Money and Finance*, November 2002, 21(6): 807-831.

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“Are Different-Currency Assets Imperfect Substitutes?” with M. Evans, revision of NBER WP 8356, in P. de Grauwe (ed.), *Exchange Rate Economics: Where Do We Stand?* MIT Press: Cambridge, MA, 2005.

“Do Currency Markets Absorb News Quickly?” with M. Evans, *J. of International Money & Finance*, 2005, 24: 197-217.

“Meese-Rogoff Redux: Micro-Based Exchange Rate Forecasting,” with M. Evans, *American Economic Review*, 2005, 95: 405-414.

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“Fixed versus Flexible: Lessons from EMS Order Flow,” with W. Killeen and M. Moore, *J. of Int’l Money & Finance*, 2006, 25: 551-579.

“Understanding Order Flow,” with M. Evans, *International Journal of Finance and Economics*, special issue on the Micro Approach to Foreign Exchange, 2006, 11: 3-23.

“Innovation in Services: Corporate Culture and Investment Banking,” with J. Chatman and C. Joyce, *California Management Review*, 2007, 50: 174-191.

“How is Macro News Transmitted to Exchange Rates?” with M. Evans, *Journal of Financial Economics*, 2008, 88: 26-50.

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“Paths to Innovative Leadership,” *BizEd*, Jan/Feb 2011, 32-38.

“Haas School of Business: Building Innovative Leaders,” *The Exchange*, MBA Roundtable, Spring 2011, 1-14.

“Curriculum Reform: Getting More Macro, and More Micro,” *Journal of Management Development*, 2012, 31: 412-423.

“Review of *Exchange Rate Dynamics*,” book by M. Evans, *Journal of Economic Literature*, 2012, 50: 187-191.

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“Exchange Rate Fundamentals and Order Flow,” with M. Evans, *Quarterly Journal of Finance*, 2013, 2: 1-63.

“Doing Much More with Less: Implementing Operational Excellence at UC Berkeley,” with A. Szeri, P. Huston and J. Wilton, *Research Paper Series*, Center for Studies in Higher Education, UC Berkeley, 2013, <http://bit.ly/11afMf7>.

“Economics of the Ed Tech Revolution,” *California Management Review*, 2017: 59: 49-55.

“What Keeps Stablecoins Stable?” with G. Viswanath-Natraj, *J. of Int’l Money & Finance*, March 2023.

OTHER PUBLICATIONS

Case: “The Berkeley-Haas School of Business: Codifying, Embedding, and Sustaining Culture (Part A),” with J. Chatman,” *BerkeleyHaas Case Series*, 2017.

Case: “The Berkeley-Haas School of Business: Codifying, Embedding, and Sustaining Culture (Part B),” with J. Chatman,” *BerkeleyHaas Case Series*, 2019.

Forbes: “Not Just Hollywood: How to Create a Gender-Inclusive Company,” *Forbes Online Leadership Series*, November 2017, <http://bit.ly/2IH9VMu>.

Forbes: “Three Reasons Why Culture Efforts Fail,” *Forbes Online Leadership Series*, September 2017, <https://bit.ly/2MAAWN4>.

Forbes: “Three Ways Overconfidence Can Sink Your Ship,” *Forbes Online Leadership Series*, August 2017, <https://bit.ly/2M9YmwP>.

Forbes: “In An Era Of Distrust, Here Are Three Ways to Transform Your Organization,” *Forbes Online Leadership Series*, March 2018, <https://bit.ly/2M9aDRZ>.

Forbes: “Why Your Job Interviews Are Probably Worthless—And How To Fix Them,” *Forbes Online Leadership Series*, May 2018, <https://bit.ly/2KDloX3>.

VoxEU: “Stablecoins Don’t Inflate Crypto Markets,” with G. Viswanath-Natraj, April 17, 2020.

TEACHING

Berkeley: Currency Markets (MFE)
International Finance (MBA)
Microstructure Finance (PhD)
International Finance (PhD)
International Economics and Finance (UG)
E-Finance (MBA)

Columbia: International Finance (MBA)
International and Domestic Money Markets (MBA)
International Business (MBA)
International Trade: The Manager's Perspective (MBA)

Stanford: International Financial Markets (MBA)

Grenoble: International Finance (Masters—DEA, taught in French)

TEACHING OTHER

Course on Micro-Based FX Research taught at:
International Monetary Fund (twice)
European Central Bank
Bank of England
US Treasury
Bank of Canada

Appendix B

Legal Documents

Indictment, United States of America v. Neil Phillips, Form No. USA-33s-274 (Ed. 9-25-5B), March 3, 2022

Data and Attached Documentation

EuroNext (Fastmatch) Data

SDNY_10_0000000001-0000000004

Glen Point Trading Data

SNDY_GP00000001.xlsx

SNDY_GP00000002.xlsx

Nomura Data

Annexure B1.pdf

Annexure B1.xlsx

NSI_GPC_0018955.xlsm

Refinitiv Data

SDNY_01_000000209

SDNY_07_000000001

SDNY_09_000000003-0000000012

SDNY_11_0000000001-0000000002

Other Produced Documents

1. BBG49-00910617_image.pdf, BBG49-00910617 – BBG49-00910643

10.30.17 OT GP JPM Confirm.pdf, JPMS000692 - JPMS000697

10.30.17 OT Quantum JPM Confirm.pdf, JPMS000685 - JPMS000691

2017.12.18 attachment.pdf, SDNY_P02_O_000009073 - SDNY_P02_O_000009102

2017.12.18.pdf, SDNY_P02_O_000009020

2017.12.18.pdf, SDNY_P02_O_000009072

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2017.12.19 attachment.pdf, SDNY_P02_O_000009041 - SDNY_P02_O_000009069

2017.12.19.pdf, SDNY_P02_O_000009003

2017.12.19.pdf, SDNY_P02_O_000009040

2017.12.19.xlsx

2017.12.20 attachment.pdf, SDNY_P02_O_000008932 - SDNY_P02_O_000008963

2017.12.20.pdf, SDNY_P02_O_000008841

2017.12.20.pdf, SDNY_P02_O_000008931

2017.12.20.xlsx

2017.12.21 attachment.pdf, SDNY_P02_O_000008863 - SDNY_P02_O_000008894

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2017.12.21.pdf, SDNY_P02_O_000008929

2017.12.21.xlsx

2017.12.22 attachment.pdf, SDNY_P02_O_000008772 - SDNY_P02_O_000008803

2017.12.22.pdf, SDNY_P02_O_000008810

2017.12.22.pdf, SNDY_P02_O_000008771

2017.12.22.xlsx

2017.12.27 attachment.pdf, SDNY_P02_O_000002292 - SDNY_P02_O_000002320

2017.12.27.pdf, SDNY_P02_O_000002291

2017.12.27.pdf, SDNY_P02_O_000008754

2017.12.27.xlsx

2017.12.28 attachment.pdf, SDNY_P02_000002485 - SDNY_P02_O_000002514

2017.12.28.pdf, SDNY_P02_O_000002484

JB Drax FX Trade Recap - GLEN POINT DS (RBS GU).msg

Key Chat - NSI_GPC_0000001.pdf, NSI_GPC_0000001 - NSI_GPC_0000034

MS Presentation - MS_GP_DOJ_0000001 - MS_GP_DOJ_0000037.pdf, MS_GP_DOJ_0000001 - MS_GP_DOJ_0000037

NatWest Markets Plc Trade ID 17360LN030275D.pdf

OIT_SW_000313597.pdf, SDNY_P02_O_000005139

OIT_SW_000313598.pdf, SDNY_P02_O_000005140

OIT_SW_000313599.pdf, SDNY_P02_O_000005141

OIT_SW_000313606.pdf, SDNY_P02_O_000005150

OIT_SW_000313608.pdf, SDNY_P02_O_000005152

OIT_SW_000313640.pdf, SDNY_P02_O_000005147

OIT_SW_000370600.pdf, SDNY_P02_O_000008667

OIT_SW_000370602.pdf, SDNY_P02_O_000008672

OIT_SW_000370611.pdf, SDNY_P02_O_000008715

OIT_SW_000370612.pdf, SDNY_P02_O_000008716

OIT_SW_000370617.pdf, SDNY_P02_O_000008744

OIT_SW_000370618.pdf, SDNY_P02_O_000008745
 OIT_SW_000370623.pdf, SDNY_P02_O_000008758
 OIT_SW_000370626.pdf, SDNY_P02_O_000008762
 OIT_SW_000370627.pdf, SDNY_P02_O_000008763
 OIT_SW_000370629.pdf, SDNY_P02_O_000008765 - SDNY_P02_O_000008766
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 OIT_SW_000370639.pdf, SDNY_P02_O_000008804
 OIT_SW_000370641.pdf, SDNY_P02_O_000008809
 OIT_SW_000370648.pdf, SDNY_P02_O_000008822
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Payne (2003), “Informed trade in spot foreign exchange markets: An empirical investigation,” *Journal of International Economics*

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Over 25 years of futures and retail foreign exchange (forex) regulatory compliance experience, managing examination teams and overseeing disciplinary actions taken against brokers and firms. I have testified in a number of disciplinary hearings in front of representatives from National Futures Association's (NFA's) Hearing Committee, as well as a Contempt of Court hearing for a party in a civil case taken by the Commodity Futures Trading Commission.

EXPERIENCE

JULY 2006 – CURRENT

DIRECTOR, COMPLIANCE, NATIONAL FUTURES ASSOCIATION

- Oversee approximately five teams conducting examinations and investigations of Member firms. These teams conduct a total of about 100 exams annually. As necessary, participate in interviews and depositions of Member firm personnel.
- Review reports and evidence for potential NFA disciplinary actions. As necessary, testify in hearings related to NFA's disciplinary actions.
- Compile and present department statistics to NFA's Compliance and Risk Committee at their quarterly meetings. This data includes trends in the number of Member firms and the amount of customer funds they hold, the results of examinations conducted, and the amount of time taken to conduct examinations and issue related complaints.
- Coordinate with representatives from NFA's enforcement area and OTC (over-the-counter) Derivatives department on disciplinary actions against Member firms. Update and maintain list of pending actions for the organization.
- Represent NFA in presentations at various industry conferences and events.

OCTOBER 2001 – JUNE 2006

ASSOCIATE DIRECTOR, COMPLIANCE, NATIONAL FUTURES ASSOCIATION

- Led NFA's New York office of 25 employees in conducting examinations and investigations of Member firms located in the eastern region of the United States

MARCH 2001 – SEPTEMBER 2001

MANAGER, MARKET REGULATION, NATIONAL FUTURES ASSOCIATION

MARCH 1998 – FEBRUARY 2001

TEAM MANAGER, NATIONAL FUTURES ASSOCIATION

JULY 1996 – FEBRUARY 1998

IN-CHARGE AUDITOR, NATIONAL FUTURES ASSOCIATION

JULY 1995 – JUNE 1996

EXPERIENCED STAFF AUDITOR, NATIONAL FUTURES ASSOCIATION

JULY 1994 – JUNE 1995

STAFF AUDITOR, NATIONAL FUTURES ASSOCIATION

EDUCATION

MAY 1994

BACHELOR OF SCIENCE, UNIVERSITY OF ILLINOIS AT CHICAGO

College of Business Administration. Major: Accounting

APRIL 2000

SERIES 3 LICENSE

National Commodity Futures Exam

MAY 2013

CERTIFIED FRAUD EXAMINER

Association of Certified Fraud Examiners

SPEAKING ENGAGEMENTS

- Member of Advisory Board for the annual Futures & Derivatives Conference at Chicago-Kent College of Law (2011-2021)
- Introductory Speaker at Futures & Derivatives Conference at Chicago-Kent College of Law
Topic: Developments in Futures and Retail Forex Regulation (2010-2019)
- Speaker at Futures & Derivatives Regulatory Conference hosted by Exchange Analytics (2020) and Riley Safer Holmes & Cancila LLP (2021 and 2023)
Topic: *Regulatory Trends*
- Guest on CME Group's Top Traders Round Table podcast
Topic: *Investor Due Diligence, Regulatory Trends for Investment Managers* (June 2018)
- Panelist at Association of Certified Fraud Examiners Annual Global Fraud Conference
Topic: *Audit Panel – Recruiting Anti-Fraud Skillsets into the Audit Function* (June 2017)
- Interviewed on *Crime & Punishment* segment on CNBC Business News
Segment Title: *Half Billion Dollar Fraud – Stolen Funds, Lavish Life* (January 2015)
- Presented training on futures and retail forex fraud for employees from the FBI's Chicago field office and US Attorney's Office in Chicago (October 2015)